# GOVERNMENT OF INDIA
# PETROLEUM AND NATURAL GAS
# LOK SABHA

STARRED QUESTION NO:303
ANSWERED ON:21.12.2015
Energy Outlook
Chavan Shri Ashok Shankarrao;Kirtikar Shri Gajanan Chandrakant

**Will the Minister of PETROLEUM AND NATURAL GAS be pleased to state:**

(a) whether the World Energy Outlook 2015 brought out by the International Energy Agency has reviewed India's energy security scenario and if so, the details of observations made in the report;
(b) the present status of energy security in the county;
(c) the per capita demand and imports of oil, gas, CNG, LNG and PNG at present and estimated by 2040, separately;
(d) whether the domestic oil/gas production being relatively expensive, increases the dependence on import and if so, the details thereof; and
(e) the estimated total investment required for stepping up of exploration and production along with the steps taken/being taken by the Government to provide universal access of reliable and affordable energy to the masses in the country?

## Answer

MINISTER OF STATE (I/C) IN THE MINISTRY OF PETROLEUM AND NATURAL GAS
(SHRI DHARMENDRA PRADHAN)
(a) to (e): A statement is laid on the Table of the House.
Statement referred to in reply to parts (a) to (e) of the Lok Sabha Starred Question No.303 asked by Shri Gajanan Kirtikar and Shri Ashok Shankarrao Chavan to be answered on 21st December, 2015 regarding "Energy Outlook".
(a): International Energy Agency (IEA) has released India's energy outlook in the World Energy Outlook 2015. Some of the observations made therein are as follows:
(i) For the entire period to 2040, India's economy will grow at a faster rate than any other country in the world, by an average of 6.5 % per year.
(ii) India's energy demand will more than double by 2040 as economy will grow to more than five times its current size. A 6 mb/d rise in oil use is the largest projected for any country's oil demand as 260 million new passenger vehicles will be added, LPG will substitute for firewood as a cooking fuel and industrial energy use will be buoyed by substantial growth in domestic manufacturing encouraged by the Make in India initiative.
(iii) The demand for oil is projected to rise to 458 mtoe with a CAGR of 3.6% (2013 to 2040).
(iv) Gas production will rise to 90 bcm in 2040, subject to adjustment to the current formula that determines the price paid to domestic producers. The demand for natural gas is projected to rise to 149 mtoe with a CAGR of 4.6% (2013 to 2040).
(v) India requires a cumulative $2.8 trillion in investment, an average of $110 billion per year, to meet the supply projections, 75% of which is in the power sector, and an additional $0.8 trillion to improve energy efficiency. Cumulative investment of $62 billion in upstream oil, $192 billion in refining, $127 billion in upstream gas and $11 billion in biofuels is projected till 2040.
(b): The present status of energy security in the country is as follows:-
(i) The refining capacity of the country is 215.1 MMTPA. During 2014-15, the total production of petroleum products in the country was 220.7 MMT against the consumption of 165.5 MMT, leading to surplus petroleum products of 55.2 MMT. During the said period, the net export of petroleum products was 35.1 billion USD.
(ii) Indian oil PSUs have also acquired assets for oil and gas production in other countries such as Russia, Vietnam, Venezuela etc. Overseas production of OVL in 2014-15 was 8.9 MMTOE.
(iii) To boost India's energy security cover, India is actively pursuing the Turkmenistan-Afghanistan-Pakistan-India (TAPI) gas pipeline which will bring gas from Turkmenistan to India. Of the 90 MMSCMD of gas that it will carry, India's share will be 38 MMSCMD. India is also discussing with Russia the possibility of a pipeline for natural gas.
(iv) In the interest of our energy security objectives, the Government, through Indian Strategic Petroleum Reserves Limited (ISPRL), is setting up Strategic Crude Oil Reserves with storage capacity of 5.33 Million Metric Tonnes (MMT) at three locations viz. Visakhapatnam (storage capacity: 1.33 MMT), Mangalore (storage capacity: 1.5 MMT) and Padur (storage capacity: 2.5 MMT). The existing gross tankage of crude oil and sensitive petroleum products in the country is 15.4 MMT and 14.9 MMT respectively.
(c): The per capita demand and imports at present and estimated by 2040 are as follows:
Present (2014-15)
Estimate by 2042*
Per capita Demand
Imports
Per capita Demand
Imports
Oil
0.1 toe
189 MMT
0.3 toe
488 MMT
Natural Gas
39.4 SCM

66.2 bcm
102.2 SCM
74 bcm
CNG
LNG
PNG
SCM − Standard Cubic Meter
*Source: IESS, NITI Aayog
(d): Cost of production of domestic crude oil is interplay of various factors and varies from field to field, area to area, etc. At present, the price of domestic crude oil is as per the prevailing international crude oil prices.
(e): As per 12th Plan estimates, Rs. 283788.52 crore has been proposed for exploration and production by Oil PSUs. In first 3 years, these companies have made an investment of Rs. 180574.24 crore. In the corresponding period, Private/JV companies have invested approximately Rs. 52470 crore on exploration and production activities.
For providing reliable and affordable energy to the consumers in the country, following steps are being taken:-
(i) In order to accelerate the pace of exploration and production of oil and gas in the country, the Government has taken various policy initiatives which are as under:
? Government has approved Marginal Field Policy for monetisation of 69 discoveries.
? Appraisal of about 1.5 million sq. km un-appraised area of the Indian Sedimentary Basins.
? Re-assessment of Hydrocarbon Resources.
? Setting up of National Data Repository.
? Policy for exploration and exploitation of Shale Gas/Shale Oil resources by NOCs under the Nomination Regime.
? Policy for exploration in the Mining Lease (ML) areas after the expiry of exploration period.
? Offering of exploration blocks through bidding round.
? Policy on Non−exclusive Multi-client Speculative Survey for assessment of unexplored sedimentary basins.
? Policy frame work for relaxations, extensions and clarifications at the development and production stage under the PSC regime for early monetization of hydrocarbon discoveries. (ii) A detailed feasibility report has been prepared for construction of additional 12.5 MMT of strategic crude oil storages in Phase-II at four locations viz. Chandikhol, Padur, Bikaner, and Rajkot. (iii) Petroleum Conservation Research Association (PCRA), under the Ministry of Petroleum & Natural Gas, promotes conservation of petroleum products in the major sectors of economy like transport, industry, households and agriculture. This includes conservation of energy sources, development, evaluation and commercialization of efficient equipment and additives, popularizing production of bio-fuels, environment protection etc. (iv) The Government, though Oil Marketing Companies (OMCs), has also been implementing Ethanol Blended Petrol (EBP) Programme. Under this programme, OMCs sell ethanol blended petrol with percentage of ethanol upto 10% as per BIS specification. On 10th August, 2015, the Government also issued notification to allow the direct sale of Bio-diesel (B100) by private manufacturers to bulk consumers with objective of promoting bio-diesel blending in HSD. (v) Oil PSUs are implementing expansion and modernization projects to increase domestic refinery capacity.
(vi) Public Sector Oil companies have also made significant efforts to diversify their crude oil supply sources. India's crude oil import basket is continuously expanding over last few years, with increased imports from South American and African countries.
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